backbone make it impossible for these customers to take advantage of the megabit speeds that the high-bandwidth technologies would offer. Indeed, deploying high-speed technologies at the local level in these markets would only make matters worse by funneling greater volumes of data traffic — from 256 kilobits per second to seven megabits per second for each digital-subscriber-line customer — to the already choked backbone.

Digital Subscriber Lines and Smaller Communities

Digital subscriber line technologies, known generically as "xDSL," use customers' existing copper loops to provide high-speed data transmission without interfering with the carriage of voice. U S WEST currently offers one form of this technology — rate-adaptive asymmetric digital subscriber lines, or "RADSL" — under the MegaBit Services brand name. A MegaBit customer uses a special modem that creates a data channel on the loop apart from the existing voice channel. The customer's loop is connected to a second modem in the central office. The second modem sits in a shelf called a digital subscriber line access multiplexer (or "DSLAM") that directs the voice traffic to the ordinary circuit-switched network and routes the data channel to a packet-switched network. In the packet-switched network, data is routed between ATM or frame relay switches connected to each other by private lines, and then to a business site or to an ISP for routing to the internet. With MegaBit Service, a customer's voice channel always remains operational even if the data channel is disrupted.

As noted above, U S WEST is currently engaged in the most aggressive deployment of digital subscriber line services in the country, having committed to providing its

MegaBit Service within the next few months in over forty cities in all fourteen of its states.[10/] U S WEST is committed to expanding this roll-out to smaller communities where it is economically feasible to do so. At the present time, roughly half of the customer loops in its service region are capable of being used for xDSL; the remainder are either served with multiplexing equipment that interferes with xDSL transmission (approximately 35%) or are too long to carry the partitioned signals without interference (approximately 15%). U S WEST's vendors are now developing xDSL equipment that is compatible with fiber-based loop multiplexing facilities and that can serve longer loop lengths; as a result, the portion of U S WEST's customers capable of being served with xDSL will increase over time.

Like many advanced communications and information services, xDSL is more difficult to deploy in less densely populated areas. A carrier recovers the costs of xDSL central-office facilities (such as DSLAMs, DS-3 links, and packet switches) from customers' use of those facilities, and central offices in less densely populated areas serve fewer customers. Rural areas also are more likely to have the longer loops and multiplexing equipment that make the deployment of xDSL services more expensive or perhaps prevent deployment altogether. Given the inherent difficulties of providing xDSL in these areas, introducing small efficiencies or inefficiencies into the deployment can make the difference between whether providing the service in a given market is economic or uneconomic.

U S WEST believes there is strong demand for MegaBit and other xDSL services in its region. These services can deliver enormous improvements in transmission speed at a price

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[10/] Only one other RBOC (Ameritech) has an xDSL tariff in place, and only in one state.

point that consumers can afford: $40 per month, with a nonrecurring charge of $145. U S WEST expects to have over 100,000 MegaBit Service subscribers in its region by the end of 1998. In addition to meeting pent-up customer demand for high-bandwidth services, U S WEST has strong network incentives to accelerate MegaBit Service deployment as much as feasible. As U S WEST has documented, and as the Commission recognizes, increases in data traffic are causing serious congestion on the circuit-switched voice network, since data calls typically have much greater holding times than the voice calls for which the network was designed.[11/] MegaBit Service alleviates this congestion by offloading data traffic to a separate packet-switched network before it encounters any circuit switch. Thus, in addition to providing customers with broadband services, U S WEST's MegaBit offerings contribute directly to the overall efficiency of the circuit-switched network.

Regulatory Barriers Preventing Deployment of these Services to Smaller Communities

As the previous sections demonstrate, low population densities make it more difficult for carriers to deploy internet backbone and xDSL technologies to residential and small-business customers in smaller and rural markets, and these areas accordingly fall well behind

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11/ See Comments of U S WEST, Inc. in Response to Notice of Inquiry Concerning Information Service Providers, CC Dkt. Nos. 96-262, 94-1, 91-213, and 96-263, filed on March 24, 1997. These comments contained a study demonstrating that the average length of a call to an ISP was 14 minutes, compared to four minutes for the average residential voice call and two minutes for the average business voice call. The study showed that over 40% of ISP calls were longer than five minutes, compared to 16% of residential voice calls and 8% of business calls. Moreover, because the study was completed before the proliferation of ISP service plans offering subscribers unlimited internet use for a flat monthly fee, it clearly underestimates the impact of ISP calls on the circuit-switched voice network; it is universally acknowledged that these unlimited-use, flat-rated plans have dramatically increased subscribers' use of the internet.

their larger counterparts. U S WEST is the best-positioned carrier in its region to correct these deficits. However, federal regulatory barriers either prevent U S WEST outright from stepping into the breach or force it to structure the needed services in a way that makes their deployment uneconomic.

1. High-speed data networks and the ban on interLATA data carriage. The ban on in-region, interLATA data transport makes it simply impossible for U S WEST to build an internet backbone (or any other kind of regional high-speed data network) in its fourteen states. There is no market for an "intraLATA internet backbone"; indeed, the term is an oxymoron. Illustration 12 shows how U S WEST currently configures its in- and out-of-region data networks, and the effect of the ban on in-region interLATA data carriage is obvious. U S WEST cannot connect the various PoPs in its region because they are in different LATAs. For the same reason, it cannot deploy the backbone necessary to provide adequate service to the smaller markets that are more distant from these PoPs. These limitations leave these communities dependent, for the most part, on single PoPs with no back-up; as a result, they can be cut off from the internet entirely by a single network failure. Adding insult to injury, ISPs in these communities must pay more than their urban counterparts for connections that are inferior, since they pay distance-sensitive charges for backhaul to the PoP.

Illustration 13 depicts the type of national network that U S WEST could and would build if !nterACT were allowed to carry data across LATA boundaries and connect its various in-region and out-of-region networks. Building this backbone would increase the quality of internet services available to rural subscribers, and it would enable ISPs in these smaller

Current !NTERACT National Network Map

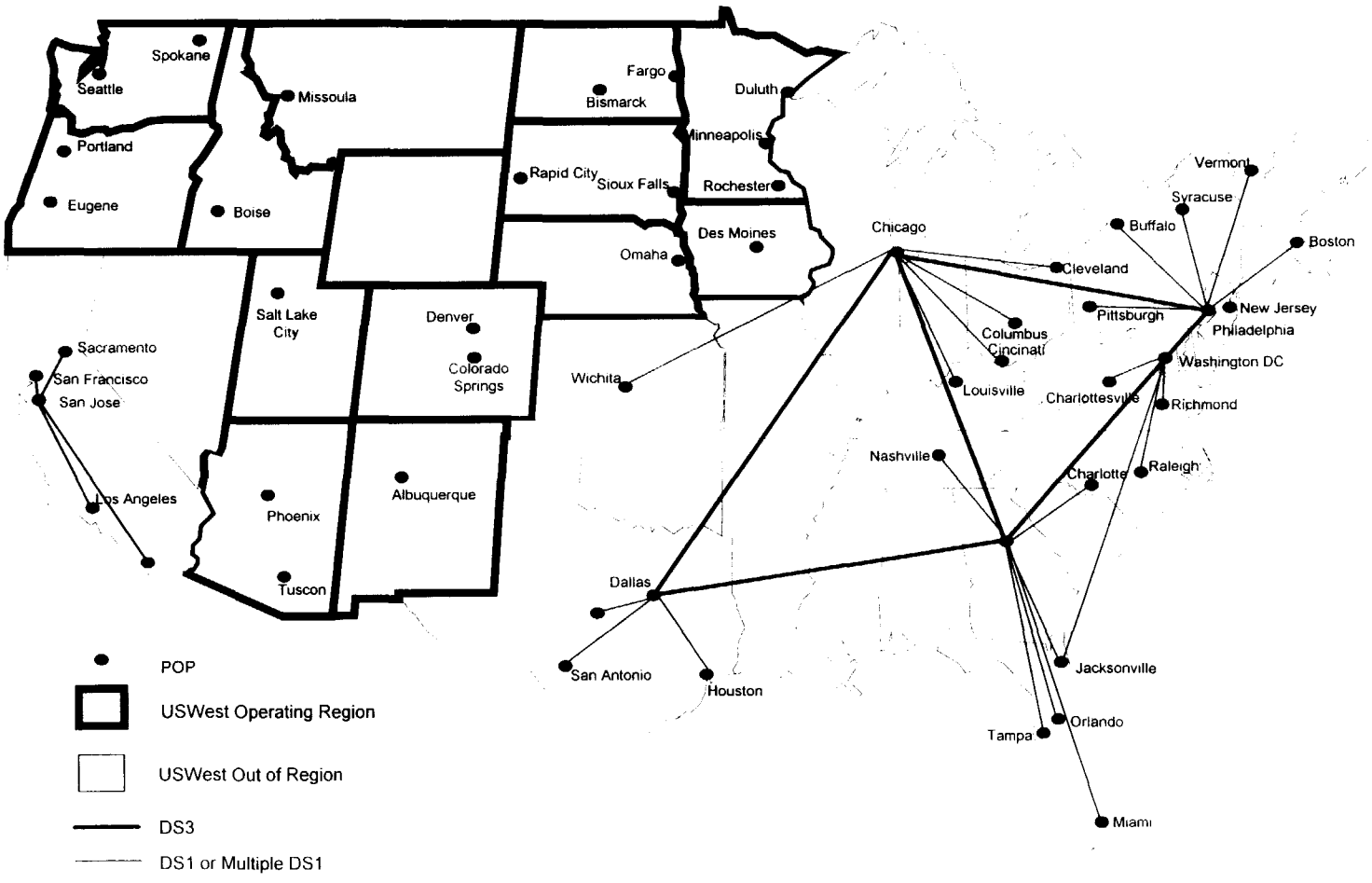

ILLUSTRATION 12

Proposed !NTERACT Infrastructure

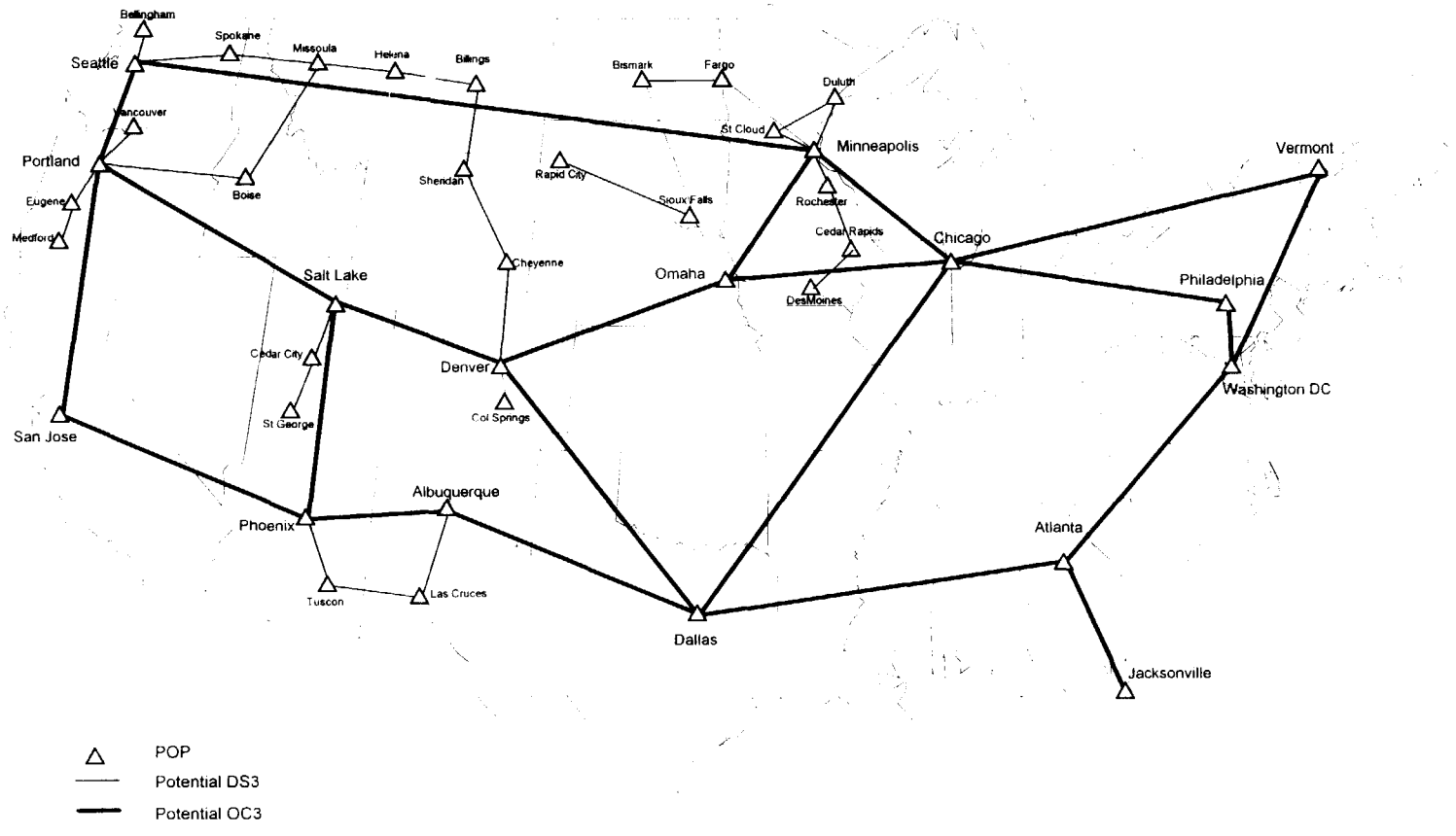

ILLUSTRATION 13

markets to expand dramatically the services they could offer. U S WEST could monitor the network from end to end, allowing for better management of traffic loads and more efficient network maintenance. U S WEST's entry into this market would increase redundancy in the backbone, preventing network failures from severing communities' connections to the information superhighway. Most importantly, as this diagram illustrates, U S WEST would be able to deploy greater bandwidth to many additional smaller markets, alleviating the network congestion rural ISPs and subscribers face, decreasing the costs of their connections to the internet by reducing the need for backhauling, and improving the quality of their connections by allowing them to reach the upper levels of the internet hierarchy in fewer hops. Put very simply, regulatory relief would enable the Sioux Falls ISP in Illustration 11 to operate like the ISP in Denver in Illustration 10.[12/]

But U S WEST can build this national backbone only if it is permitted to transport data across LATA boundaries; otherwise, despite the great pent-up demand for this and other data networking services, U S WEST is limited to an in-region, non-interconnected network and the wholly separate out-of-region networks depicted in Illustration 12. The ban on interLATA data carriage has forced U S WEST to turn down many requests for assistance from educational institutions, independent ISPs, and other potential clients. In March 1997, for example, a coalition of universities and government institutions — including Arizona State University, the Colorado School of Mines, Colorado State University, the Universities of Colorado at Boulder

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[12/] In addition, allowing U S WEST to provide cell-switched and frame relay services across LATA boundaries would sharpen U S WEST's incentives to deploy bandwidth even further by making it easier to aggregate the critical masses of data traffic that make deployment in smaller markets economic.

and Denver, the National Center for Atmospheric Research, the University of New Mexico, the University of Utah, and Utah State University — asked U S WEST to submit a proposal to build a high-speed cell-relay network connecting these institutions, to be known as "Westnet2." Because of the interLATA restriction, U S WEST could not offer to build an integrated wide-area network as the Westnet2 members had hoped; instead, it could offer only a series of smaller ATM networks connected by cell-relay links purchased from an interexchange carrier.[13/] While the coalition members were extremely interested in having U S WEST build Westnet2, given that the company had already built many of the intraLATA ATM networks these institutions were currently using, they were reluctant to proceed and ultimately put the project on hold; U S WEST's having to rely on a second carrier to provide the interLATA links of the network meant that it could not guarantee the reliability of those links and introduced too many contingencies into the project. U S WEST will never be able to build the type of networks that these institutions need so long as the ban on interLATA service applies to data networking services.

2. MegaBit Service and the ban on interLATA data carriage. The ban on in-region, interLATA data carriage similarly hampers the efficient provision of xDSL services such as MegaBit, making it prohibitively expensive for U S WEST to deploy these technologies in rural areas. The central office equipment used to provide MegaBit Service is expensive: a basic, 128-user DSLAM costs approximately $73,000 installed (and several might be necessary), an installed ATM switching system costs approximately $350,000, and the DS-3 networking needed

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[13/] Ironically, U S WEST would have been allowed to build a region-wide network for the coalition (albeit only an internet backbone network) had its members been elementary or secondary schools instead of universities. See 47 U.S.C. § 271(g)(2).

to connect the central office with other central offices can cost several hundred thousand dollars, depending on how remote the office is and what facilities have already been deployed. The costs of deploying xDSL services decrease significantly (and the number of central offices in which customer demand reaches the break-even point accordingly increases) to the extent that central offices can share equipment. In particular, if U S WEST could aggregate traffic from multiple central offices in different LATAs to centralized high-capacity ATM switches, it could reduce the number of switches it would have to deploy and decrease the costs of rolling out MegaBit Services to these central offices.[14/]

Illustration 14 demonstrates how this might be done. The DSLAMs in each central office supporting MegaBit Services would be connected with a DS-3 to the nearest regional ATM switch, which might be in a different LATA. (For clarity, the central-office connections are not shown in the illustrations.) The ATM switches would be connected to one another with DS-3, OC-3, or other high-capacity links. Data traffic could be aggregated and handed off to ISPs or corporate intranets at single, efficient host connections.

But because U S WEST is not allowed to aggregate data traffic from central offices in different LATAs, it must build a redundant set of facilities in each one, as shown in Illustration 15. In this configuration, each central office must connect to an ATM switch located in the same LATA. Each redundant ATM switching system that U S WEST must install adds $350,000 to the costs that must be recovered from small- and rural-market customers before

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[14/] The availability of high-capacity ATM switches allows for significant economies of scale in cell-switched networks. For example, U S WEST's out-of-region ATM network, when complete, will need only eight to ten switches to serve the top eighty out-of-region markets.

HYPOTHETICAL ATM SWITCH DEPLOYMENT FOR DSL WITH INTERLATA RELIEF

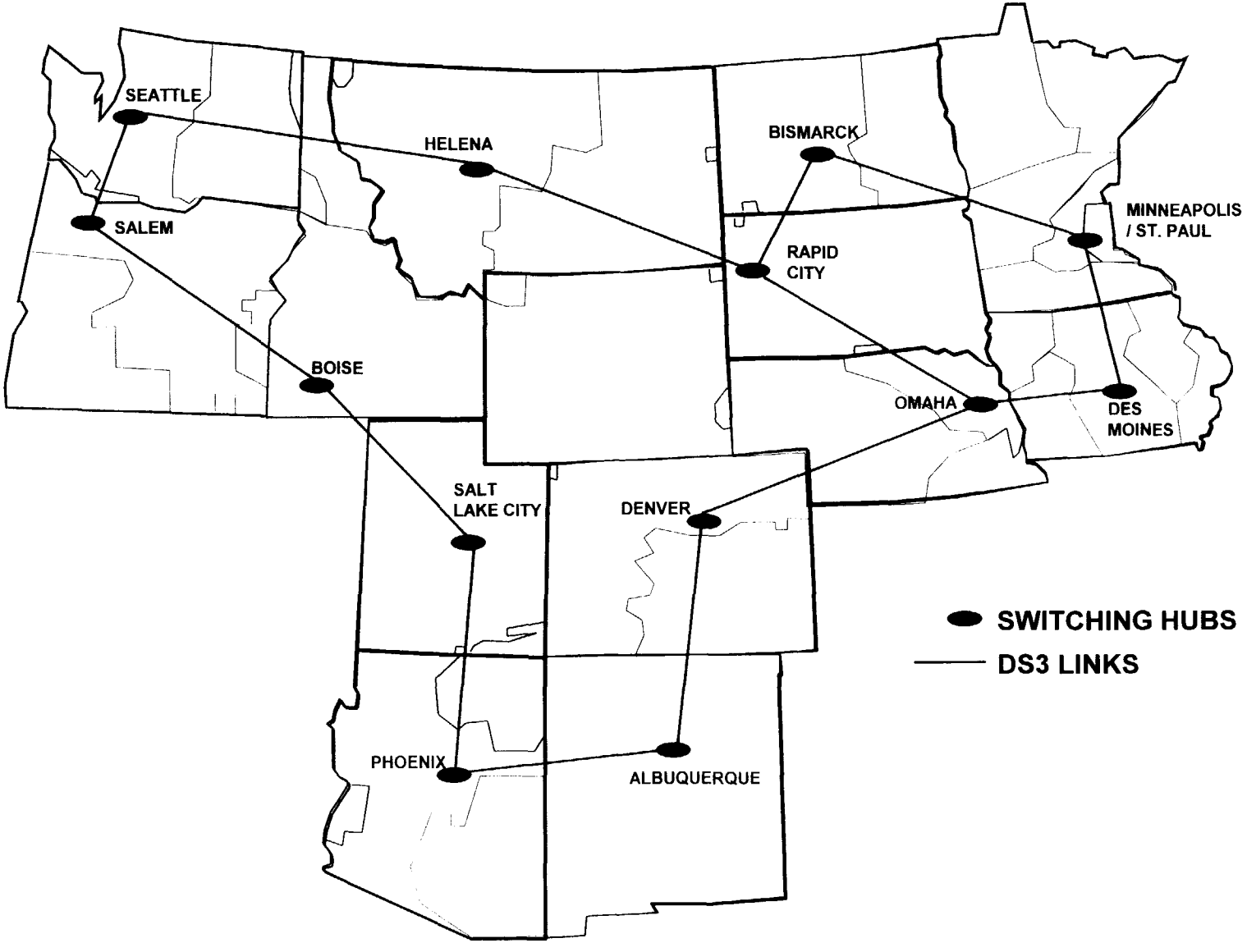

ILLUSTRATION 14

ATM SWITCH DEPLOYMENT FOR DSL WITHOUT INTERLATA RELIEF

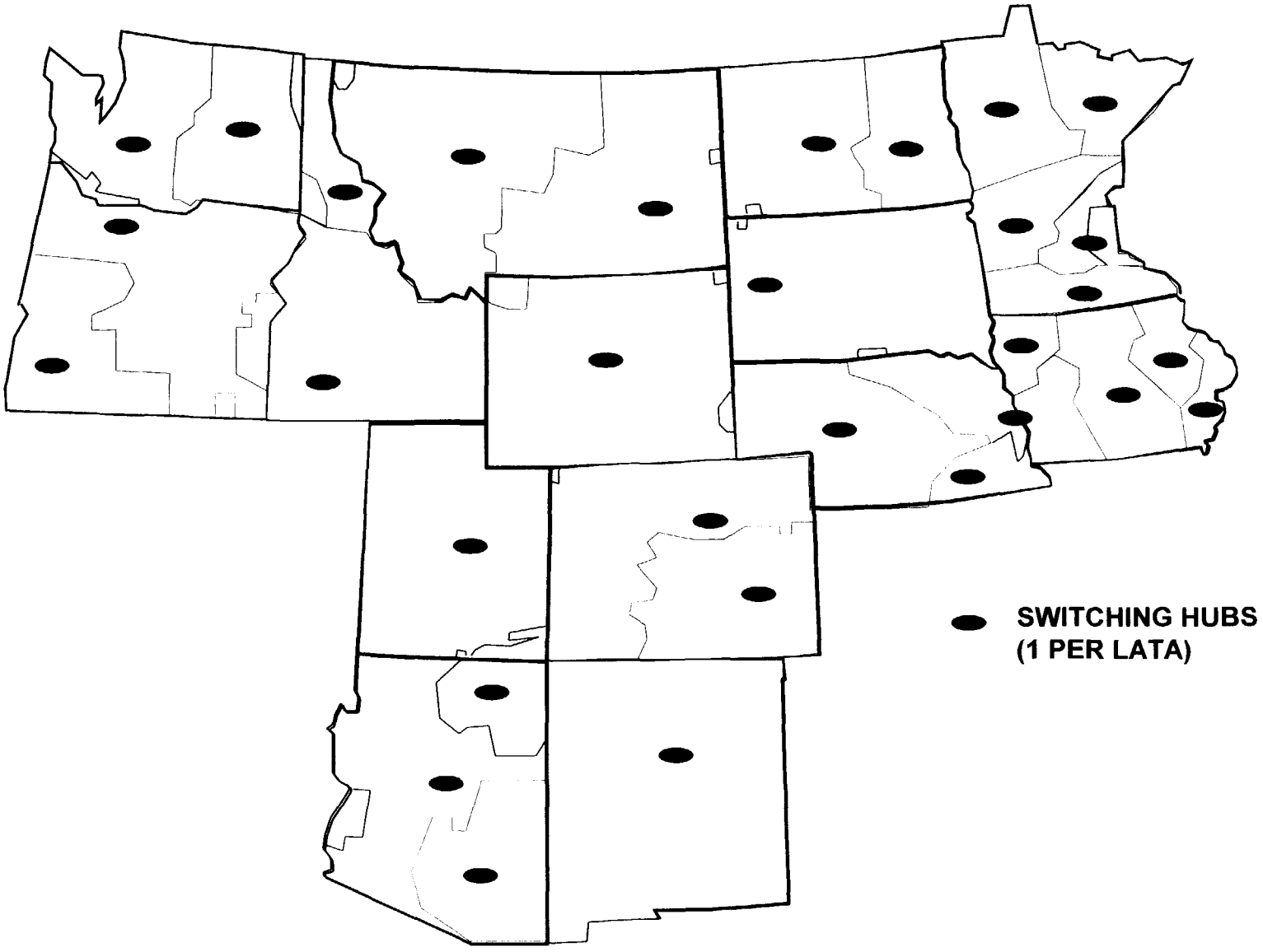

ILLUSTRATION 15

deployment of MegaBit Services would break even, and the added cost can tip the balance against ever deploying xDSL in that LATA. Just as importantly, this forced, inefficient configuration adds to the costs faced by independent ISPs. Because U S WEST may not aggregate data traffic across LATA lines and route it to a single ISP host connection, a regional ISP that wants to receive MegaBit traffic from subscribers in several different LATAs must establish redundant (and less efficient) MegaCentral host connections in each one and aggregate the traffic itself.

3. Unbundling and resale requirements. Finally, both the deployment of data bandwidth and the roll-out of xDSL require massive investments by U S WEST. U S WEST will invest approximately $96 million in its in-region and out-of-region data networks this year, and will likely invest another $350 million over the next five years, depending on whether it is allowed to build a nationwide network. Likewise, as the previous section established, deploying xDSL to a central office requires enormous capital investments: U S WEST must install one or more DSLAMs in each central office, prepare the loops of each MegaBit Service subscriber, and cable the office to a network of ATM switching systems. U S WEST is already investing $116 million to meet its announced forty-city roll-out of MegaBit Services, and deploying the service beyond those forty cities would require the company to invest hundreds of millions more, depending on the scope of the deployment. U S WEST can rationally make these investments only if it is able to achieve an economic return on them. As described in greater detail below, application of the Commission's unbundling and resale rules to these services discourages U S WEST from making these investments, because the company must turn its innovative new

services over to its competitors at significant discounts. And, in turn, by allowing the competitors to free ride on U S WEST's investments and innovations without risk, the rules discourage those companies from investing in competing offerings of advanced services, which further slows Congress's hoped-for deployment of data services to rural communities.

ARGUMENT

THE COMMISSION CAN AND SHOULD GRANT THE RELIEF REQUESTED IN THIS PETITION.

Under the Commission's rules, any person may petition the Commission to take formal action, to refrain from acting, or to amend, appeal, or waive its rules. See, e.g., 47 C.F.R. §§ 1.3, 1.401. Parties may also petition the Commission to investigate any matter relevant to the "carrying out of its duties or the formulation or amendment of its rules and regulations." 47 C.F.R. § 1.1. Section 706 of the Telecommunications Act gives the Commission the power to grant the relief U S WEST requests, by authorizing the agency to forbear from applying rules that hinder the deployment of advanced telecommunications capacity to all Americans.[15/] The Commission should exercise that power to forbear from imposing the regulatory burdens described above because those burdens frustrate the nationwide deployment of advanced services and technologies, especially to rural areas.

15/ U S WEST is not asking the Commission to rely on its generic forbearance authority in Section 10 of the Telecommunications Act, codified at 47 U.S.C. § 160(a). By express limitation, that power cannot be used to forbear from the application of rules implementing Sections 251 and 271 of the Act until the Commission finds that those sections have been fully implemented. See 47 U.S.C. § 160(d). While U S WEST has fully implemented Section 251, it has not yet obtained Commission approval under Section 271 to provide interLATA services. By contrast, the more targeted grant of forbearance authority in Section 706 contains no such limitation.

I. SECTION 706 GIVES THE COMMISSION POWER TO FORBEAR FROM APPLYING REGULATORY REQUIREMENTS THAT ARE HINDERING THE RAPID DEPLOYMENT OF ADVANCED TELECOMMUNICATIONS CAPABILITY AND DIRECTS THE COMMISSION TO USE THAT POWER.

In the Telecommunications Act, Congress specifically acknowledged that carriers' regulatory burdens often discourage them from developing and deploying advanced services and technologies. It therefore directed the Commission to identify such barriers and take affirmative steps to lift them. As noted above, Section 706 of the Act places a duty on the Commission to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . . by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment." Act § 706(a), codified at 47 U.S.C. 157 note (emphasis added).[16/] By "advanced telecommunications capability," Congress meant exactly the broadband data services and facilities that U S WEST is seeking here to provide: "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications." Id. § 706(c).

In addition, Section 706 directs the Commission to ensure that these services are deployed to "all Americans." As noted above, Congress was especially concerned that rural

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16/ In turn, 47 U.S.C. § 157 declares it "the policy of the United States to encourage the provision of new technologies and services to the public," and puts the burden of persuasion on parties seeking to oppose the authorization and deployment of new technologies. U S WEST submits that parties opposing this petition should bear that burden.

consumers have access to the same advanced services as urban ones, and it wrote that concern into the Act, both here and in the universal service provisions. See, e.g., 47 U.S.C. § 254(b)(3) ("Consumers in all regions of the Nation, including . . those in rural, insular, and high-cost areas, should have access to telecommunications and information services, including . . . advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas."). Recent remarks by Chairman Kennard demonstrate that the Commission is well aware of its statutory obligations "to ensure . . . that telecommunications services remain comparable in all areas of the country" and to prevent rural America from becoming "a 'have not' zone in the telecommunications age."[17/] The Commission has properly recognized that it was given its power under Section 706 as a tool for achieving these goals.[18/]

Congress intended that the Commission use this power to provide relief wherever it has evidence that regulatory burdens hinder the deployment of advanced services and technologies. It directed the Commission to inquire periodically "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely

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17/ Press Statement of Chairman William E. Kennard on the Second Anniversary of the Telecom Act of 1996 at 3 (Jan. 30, 1998); see also Remarks by William E. Kennard, Chairman, Federal Communications Commission, to the National Association of State Utility Consumer Advocates at 5 (Feb. 9, 1998) ("We cannot allow rural America to become a 'have not' zone in the telecommunications age. . . . Today it is the Information Superhighway that can bring us together as a nation. Or it can divide us. It can connect small and rural communities to the world of commerce and culture. Or it can leave them behind."); Remarks by William E. Kennard, Chairman, Federal Communications Commission, to the Organization for the Promotion and Advancement of Small Telephone Companies at 2 (Jan. 12, 1998).

18/ The Commission has noted that "section 706 reinforces the goals of section 254," the universal service provisions of the Act. Federal-State Joint Board on Universal Service, Report and Order, 12 FCC Rcd 8776, 9091 at ¶ 605 (1997).

fashion," and, if not, provided in mandatory terms that the Commission "shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." Id. § 706(b) (emphasis added).[19/] The legislative history of Section 706 confirms that, if the Commission finds that regulatory barriers are preventing carriers from deploying advanced services and technologies to all Americans, the Commission "is required to take immediate action to accelerate deployment," including "regulatory forbearance, and other methods that remove barriers and provide the proper incentives for infrastructure investment." H.R. Conf. Rep. 104-458, 104th Cong., 2d Sess. 210 (1996) (emphasis added); see also S. Rep. 104-23, 104th Cong., 1st Sess. 50 (1995) (same). Moreover, while Section 10 of the Act withholds its forbearance authority from the Commission until 47 U.S.C. §§ 251 and 271 have been "fully implemented," Section 706 contains no such limitation, highlighting the critical importance Congress placed on the task of ensuring that all Americans, not just a privileged few, have timely access to the new information age.

19/ While Congress directed the Commission to undertake a formal inquiry on this subject and act on its findings, that does not mean that the Commission may act or find facts only in the context of such an inquiry; otherwise, Section 706(a)'s instructions to the Commission would be surplusage. The Communications Act gives the Commission a general power to find facts and take action to enforce the statute, whether on petition from an interested party or on the Commission's own motion. See 47 U.S.C. § 403. As ex-Chairman Hundt testified to Congress, "Section 706 does not require that the FCC wait two and a half years [the deadline for the formal notice of inquiry] before trying to explore ways to deliver advanced telecommunications services to all America, especially including rural America." Testimony of Reed E. Hundt before the Senate Commerce, Science and Transportation Committee, S. Hrg. 104-623, FCC Oversight and Implementation of the Telecommunications Act of 1996 (June 18, 1996).

The Commission should now find that the regulatory burdens that U S WEST has identified are preventing "the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans," especially those who live in rural areas, and take immediate action to remove those barriers.

II. THE COMMISSION SHOULD ENCOURAGE THE DEPLOYMENT OF DATA AND INTERNET BANDWIDTH TO SMALLER COMMUNITIES BY AUTHORIZING U S WEST TO BUILD HIGH-SPEED NETWORKS ACROSS LATA BOUNDARIES.

As explained in detail above, internet backbone capacity is in short supply nationwide, and the shortage in the smaller and rural markets served by U S WEST is even more severe. The high-speed links on the backbone connect only the principal nodes of the national network, which are located almost exclusively in major metropolitan areas. By contrast, rural ISPs are connected to the national backbone by much slower links — typically T-1 lines, or even 56 kilobit lines — and are generally served only by a single PoP. These extra chokepoints slow rural users' maximum internet speeds below the already low national averages. For these users, the internet is hardly the "advanced telecommunications capability" that Section 706 seeks to promote, as it falls far short of a "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications." Act § 706(c)(1).

In addition, as noted above, ISPs and subscribers in these smaller markets must pay more than their urban counterparts for their slower and technically inferior links to the internet. Prohibitive distance-sensitive charges for backhauling traffic to the backbone providers' PoPs force ISPs in smaller markets to use the lowest-capacity transport links they can,

even if those slow links make it impossible to offer their subscribers advanced information services. Finally, the lack of bandwidth to and on the backbone in rural areas discourages carriers from deploying advanced telecommunications technologies such as digital subscriber lines in these communities; for customers in these markets, a megabit-speed connection to a choked backbone would be as much of a waste as buying a Lamborghini to travel on a 25 mile-per-hour residential street.

As the carrier with the greatest infrastructure investment in the rural communities of its service region, U S WEST is the logical party to deploy the critically needed new transmission capacity to and on the internet backbone in these areas. As Illustration 13 demonstrates, U S WEST would like to build a national data network that would increase high-speed connectivity to the rural portions of its region and alleviate congestion nationwide. U S WEST has strong incentives to make the necessary investments. A faster internet would, in the short term, increase the demand for second and third telephone lines; over the longer term, it would fuel the company's sales of advanced communications technologies such as xDSL and its data networking services. In turn, U S WEST's deployment of a backbone network with more PoPs in smaller communities would enable independent ISPs to expand the information services they make available to customers in those markets. ISPs would not have to pay the prohibitive backhauling charges that discourage them from connecting to the internet with high-capacity links, and the links they have would be more reliable.

Although U S WEST is capable of doing more than any other carrier in its region to alleviate internet congestion and bring advanced services to rural America, regulatory barriers prevent it from entering the market and from making the investments in the infrastructure

necessary to deploy advanced telecommunications capacity. Preventing U S WEST from carrying data across LATA boundaries is equivalent to banning U S WEST outright from the business of providing regional internet backbone services. Section 706 directs the Commission to undertake "regulatory forbearance" and "measures that promote competition" to remove these barriers, and the Commission should carry out its mandate by allowing U S WEST to enter and compete in this market for internet backbone services.[20/]

III. THE COMMISSION SHOULD ALLOW U S WEST TO CARRY DATA ACROSS LATA BOUNDARIES INCIDENT TO ITS PROVISION OF MEGABIT (xDSL) SERVICES.

As noted above, the ban on interLATA data carriage indirectly depresses demand for advanced communications services such as U S WEST's MegaBit Service by thwarting the investments in internet infrastructure that would alleviate internet congestion and make these advanced services useful. The ban also frustrates the deployment of xDSL technologies more directly. By denying carriers such as U S WEST the ability to aggregate data traffic across LATA boundaries, it prevents them from taking advantage of economies of scale without which the deployment of xDSL services in thinly populated areas is infeasible. As described above,

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20/ Under the prior regime of the MFJ, similar accommodations were made to encourage the development of new services or increase competition. See, e.g., United States v. Western Elec. Co., 890 F. Supp. 1, 6 (D.D.C. 1995) (allowing BOCs to provide cellular interexchange service where competitive access providers operate), vacated as moot, 84 F.3d 1452 (D.C. Cir. 1996) (unpublished disposition); Memorandum Opinion and Order, United States v. Western Elec. Co., No. 82-0192 (D.D.C. Feb. 16, 1989) (blanket waiver of LATA boundaries for wide-area paging services); Memorandum, United States v. Western Elec. Co., No. 82-0192 (D.D.C. Sept. 11, 1989) (allowing BOCs to use centralized computers to provide telecommunications relay services for the deaf across multiple LATAs); Order, United States v. Western Elec. Co., No. 82-0192 (D.D.C. Feb. 2, 1989) (same for E-911 services).

rolling out MegaBit Service requires U S WEST to make substantial investments in its central offices and interoffice facilities. In particular, it must build a separate, high-capacity data network to transport callers' data traffic to corporate intranets, ISPs, or directly to the internet backbone, and there are significant economies of scale to building this data network. To the extent that U S WEST can use centralized facilities and hand off larger volumes of traffic to ISPs at larger, centralized nodes, the network becomes far less costly to build. Each redundant ATM switching system that U S WEST can avoid constructing reduces its deployment costs by $350,000.

But the bar on interLATA data carriage prevents U S WEST from building a data network that crosses LATA boundaries. As a result, U S WEST must build a redundant and fully self-contained set of data facilities in each LATA in which it wants to provide MegaBit Service. Notwithstanding these forced inefficiencies, it may still be economic (although more expensive to the consumer than necessary) to deploy xDSL in urban areas, where loop lengths are short, potential traffic volumes are high, and there are many adequate ISPs and handoff points within the LATA. As noted above, however, the interLATA restrictions make it uneconomic to deploy the service in smaller communities.

Even without the interLATA restrictions, xDSL technologies are more expensive to deploy in thinly populated areas than densely populated ones. Longer loop lengths present problems of signal attenuation that require extra hardware, and lighter traffic volumes mean that construction costs must be recovered from fewer subscribers. Many of these costs could be borne if allocated across a broader customer base, but this can be done only if U S WEST serves larger groups of customers with the same common facilities. Requiring U S WEST to build

duplicative network facilities in each LATA and denying it the ability to use efficient out-of-LATA handoff points make the rollout of xDSL to rural America infeasible. To meet its mandate under Section 706, the Commission should grant U S WEST limited interLATA relief, either by lifting the ban on interLATA data carriage or by redefining LATA boundaries, allowing it to aggregate data traffic from multiple thinly populated areas and use centralized, high-volume network facilities and handoff points to ISPs.

IV. THE COMMISSION SHOULD FORBEAR FROM REQUIRING U S WEST TO UNBUNDLE ITS NON-BOTTLENECK DATA AND xDSL FACILITIES FOR ITS COMPETITORS, AND FROM REQUIRING IT TO PROVIDE ITS DATA SERVICES TO RESELLERS AT A WHOLESALE DISCOUNT.

The Commission should also forbear from applying the unbundling and resale discount requirements of 47 U.S.C. §§ 251(c)(3) and (4) to non-circuit-switched data services and facilities.[21/] Although, as we explain below, the language of these statutory provisions suggests that these requirements do not apply to the advanced data facilities and services described in this petition, the scope of the Commission's current rules implementing the provisions is ambiguous. These requirements, if imposed on the facilities and services described here, would severely and inefficiently distort carriers' incentives to invest in and deploy the advanced telecommunications capabilities that Section 706 directs the Commission to encourage. The Commission would only make matters worse if, as it recently proposed, it were to extend to

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21/ U S WEST emphasizes that its request for forbearance is limited to the unbundling and resale discount rules derived from the Telecommunications Act, 47 U.S.C. §§ 251(c)(3) and (4). It does not request relief at this time from the obligations imposed under the Commission's Open Network Architecture rules, nor does it seek exemption from the Commission's generally applicable total-service resale requirements.

"pure" information service providers (that is, those that are not also telecommunications carriers) the right to obtain unbundled network elements.[22] Accordingly, the Commission should use its power under Section 706 to limit application of the Telecommunications Act's unbundling and resale discount requirements to traditional local-exchange, circuit-switched voice services and facilities.

The unbundling provisions of the Act require incumbent local exchange carriers to provide the elements of their telephone exchange networks to competitors on an unbundled basis and at rates based on cost plus a reasonable profit. 47 U.S.C. §§ 251(c)(3), 252(d)(1). The Act gives the Commission authority, subject to some constraints, to define which elements of carriers' networks must be unbundled in this fashion. Id. § 251(d)(2).[23] The text of the Act suggests that Congress intended that carriers would unbundle only the elements of their networks used to provide traditional circuit-switched telephone exchange services.[24] However, the

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22/ See *Computer III* Further Remand Proceedings, Further Notice of Proposed Rulemaking, CC Dkt. Nos. 95-20, 98-10 at ¶¶ 94-96 (released Jan. 30, 1998).

23/ The Supreme Court has granted U S WEST's cross-petition for certiorari challenging the standards the Commission has used to identify the network elements to be unbundled. U S WEST v. FCC, No. 97-1099, cert. granted Jan. 26, 1998.

24/ Both the unbundling and resale discount provisions of the Act apply only to "incumbent local exchange carriers." 47 U.S.C. § 251(c). A "local exchange carrier" is defined as a person providing "telephone exchange service or exchange access." Id. § 153(26). "Telephone exchange service," in turn, is "(A) service within a telephone exchange, or within a connected system of telephone exchanges within the same exchange area operated to furnish to subscribers intercommunicating service of the character ordinarily furnished by a single exchange . . . , or (B) comparable service provided through a series of switches, transmission equipment, or other facilities . . . by which a subscriber can originate and terminate a telecommunications service."

A procompetitive reading of these provisions would be that a carrier providing the (continued...)

Commission's unbundling and resale rules have so far not drawn any distinction between incumbent LECs' voice networks and service offerings on the one hand, and their packet-switched networks and data services on the other.

Requiring incumbent LECs to provide their advanced-service facilities to competitors on an unbundled basis at cost-based rates would reduce their incentives to innovate and invest in infrastructure. In a competitive marketplace, competitors invest in new facilities (and in research to develop such new facilities) in order to differentiate themselves from each other. Government rules that impair the ability of a competitor to achieve the normal economic results of prudent investment destroy this process. An incumbent LEC contemplating an

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24/ (...continued)
advanced data services described in this petition is not providing "telephone exchange service," and therefore is not an "incumbent local exchange carrier" subject to the obligations of 47 U.S.C. § 251(c). An internet backbone does not begin and end "within a telephone exchange, or within a connected system of telephone exchanges," nor do the data portions of calls made over xDSL connections. (Indeed, the very point of deploying xDSL is to remove data communications from the voice network.) Moreover, whether a service is "comparable" to traditional telephone exchange service depends on whether it is primarily a substitute for two-way, switched, wireline voice services. See Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, First Report and Order, 11 FCC Rcd 15499, 15999 at ¶ 1013 ("*Interconnection First Report and Order*") (holding cellular, broadband PCS, and SMR services to be "comparable" because "these CMRS providers provide local, two-way switched voice service as a principal part of their business"). As the Commission has recognized, distributed packet-switched services are fundamentally unlike traditional two-way circuit-switched voice services, and regulations governing the latter cannot be extended uncritically to the former. See, e.g., Usage of the Public Switched Network by Information Service and Internet Access Providers, Notice of Inquiry, 11 FCC Rcd 21354, 21391 at ¶ 311 (1996). The idea that a company might be an incumbent LEC with respect to some of its services but not others is unremarkable; for example, the Commission has held that incumbent LECs' CMRS affiliates are not themselves LECs subject to the duties imposed by 47 U.S.C. §§ 251(b) and (c). See *Interconnection First Report and Order*, 11 FCC Rcd at 15995, ¶ 1004. And nobody suggests that GTE and Sprint must make their competitive long distance offerings available to resellers at an avoided-cost discount simply because the carriers are also incumbent LECs.

investment in an innovation that it knows cannot be used to differentiate its services will not make the investment. Similarly, an incumbent LEC that knows that it alone must bear the costs of any unsuccessful innovations, while being forced to share any resulting benefits, will not risk experimenting with innovations that might not prove successful. Conversely, permitting CLECs or other competitors to obtain an incumbent LEC's advanced-service facilities at cost on an unbundled basis inefficiently discourages them from investing in their own facilities. If a CLEC can avoid all research and development risks by waiting to exploit the incumbent LEC's innovative services and technologies, and if it can abandon those innovations at any time without cost or risk should they turn out to be less successful in the marketplace than anticipated, the CLEC itself is discouraged from experimenting, investing, and innovating.

Likewise, the Commission has interpreted the resale discount requirement in 47 U.S.C. § 251(c)(4) in a way that, if applied to the data services that are the subject of this petition, would discourage incumbent LECs and CLECs from competing to deploy advanced telecommunications and information services to all Americans. While the text of the provision suggests that Congress intended to limit the resale obligation to traditional circuit-switched "telephone exchange services,"[25/] the Commission has suggested that incumbent carriers may have to make all of their tariffed retail services available to their competitors at a sharp discount for resale.[26/] If that suggestion were implemented, the result would be predictable. As under the unbundling rules, incumbents would be inefficiently discouraged from developing and deploying

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25/ See supra note 24.

26/ See *Interconnection First Report and Order*, 11 FCC Rcd at 15934, ¶ 872.

innovative advanced services, because they would know that their competitors could immediately offer the same services without bearing any of the innovation risks; and competitors would be discouraged from undertaking their own innovations and investing in the infrastructure needed to deploy competing service offerings.

In sum, the Commission's unbundling and resale discount rules, if applied broadly and beyond the reasonable confines of the circuit-switched local exchange network, would lead both incumbent LECs and CLECs to underinvest in innovative services and technologies, thereby frustrating the deployment of advanced telecommunications capabilities for all Americans. Carriers such as U S WEST must take these rules into account in deciding whether it makes economic sense to invest in or deploy advanced information and communications services. To comply with Congress's mandate in Section 706, therefore, the Commission should amend its unbundling and resale discount rules to specify that they apply exclusively to traditional circuit-switched voice services and the facilities used to provide them. Exempting data transport services and broadband packet-switched facilities from the unbundling and resale discount requirements will encourage incumbent LECs and CLECs to invest in the infrastructure necessary to deploy advanced telecommunications capacity to all communities.

U S WEST is not asking the Commission to remove the unbundling and resale discount requirements from the underlying "bottleneck" facilities that may be used in voice and data services alike. For example, U S WEST is not suggesting that the Commission should refrain from requiring unbundling of the copper loop simply because it can be used to provide advanced services such as xDSL as well as traditional voice local exchange services. Rather, U S WEST urges the Commission to limit the scope of the unbundling and resale discount rules to